In social animals, dominance structure can play an important role. Dominance can increase access to food or mates. Jabs, feints, and other displays such as vocalization, posture, and feather displays can be used to express dominance (Heinrich 1994). Benefits with regards to access to resources can be obtained from having a dominant status (Bryant and Newton 1994). A bird’s status is often signaled while eating (Heinrich 1994). Feeders may cause birds to interact more often than when they are foraging free (Lahti et al. 1996). Social status can often be observed at a common gathering point such as a feeder (Bryant and Newton 1994). During the non-breeding season, many resident bird species form groups with a linear social hierarchy. Interactions between two individuals, a dominant bird and a subordinate bird, are common among passerines (Pravosudov and Lucas 2000).

Age, sex, prior residency, size, and plumage coloration are factors that can affect the social relationships of birds (Lahti et al. 1996). Males have been found to typically dominate females, even in mated pairs (Pravosudov and Lucas 2000). Studies have shown that males also behave more aggressively towards other males than toward females (Lahti et al. 1996). Size has been found to be a significant factor in the hierarchy of some species. In Carolina chickadees, larger birds tend to dominate smaller birds (Pravosudov and Lucas 2000). However, in a study done on Willow tits, size was found not to have much of an effect on dominance. Larger size only determined dominance when the birds were matched in other respects or when the difference was great. However, males, who had longer tarsi and wings, were found to be dominant over females (Lahti et al. 1996). Site-related dominance has been observed between birds of different flocks. Even the bottom-ranked individual of a resident flock dominated the intruding alpha male from a neighboring flock territory (Lahti et al. 1996). The area of a bird’s plumage and the intensity of color in the plumage have been shown to play a role in behavior interactions and may serve as status signals (Bryant and Newton 1994).

Dominance in birds also has costs associated with it. One such cost is the metabolic cost of being dominant. Dominance is often related to larger size, and metabolism scales allometrically on body mass. Plumage features that imply a dominant status also have been associated with higher metabolism rates. The active components, such as fighting and chasing, of a dominant individual could possibly lead to a greater metabolic cost (Bryant and Newton 1994). Dominant interactions occurred primarily versus near-socially equal individuals. This could be so that dominant individuals could minimize costly aggressive interactions.
with subordinates, who could also attempt to avoid interactions they are sure to lose (Heinrich 1994).

This short-term study on Zebra finches was done to determine if dominance is related to size or to prior residency. Size is a determinant of dominance unless the finch has previously established residency in an area. It was predicted that when a finch had established residency, that bird would be dominant over any new individual of the same size introduced into that area. It was also predicted that the resident bird would be dominant over a larger bird newly introduced into that area. However, when residency was held constant, it was predicted that the larger bird would be dominant over the smaller bird.